

## DETERMINANTS OF AN OPEN MARKET CONCEPT TOWARDS HAULAGE INDUSTRY IN MALAYSIA

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### ABSTRACT

*The haulage industry in Malaysia at present is facing some problems. The most critical of these problems exists while commercializing businesses which have been exposed to price under cutting and trade liberalization. This experience had been responsible for marginal profit margin in the industry. Both private and government establishments are finding it difficult to sustain their business in the liberalized market. Therefore, the objective of this research is to identify a model which can accommodate haulage businesses in the liberalized market. This study conducted a survey with 170 respondents who are stakeholders in the haulage industry. The findings show that business strategy, administrative activity, financial activity and operation activity are the key antecedents for modeling an open market concept in haulage industry. The model suggested that open market concept in haulage industry increases the revenue of both public and private companies in the haulage industry.*

**Key words:** Haulage industry, Open Market, Business Strategy, Administrative Activity, Operation Activity, Financial Activity.

### INTRODUCTION

Haulage industry consists of the logistics companies that focus on planning, execution, control of the procurement and material movement (Yan & Qui, 2011; Wu & Shangguan, 2012). In most of their daily activities, the haulage companies involve in transporting laden and empty containers for both importation and exportation of goods. The current research interest into haulage industry is attracted by the proposed liberalization of the sector in some developing countries. The liberalization process which is called open market concept ensures permits and haulage licenses are opened to the public without limitation (Wu & Shangguan, 2012). As such, the new participating companies are given the alternative in securing their own customers with respect to the haulage rates within their capacities.

Some of the stakeholders have suggested that government should have some control over the haulage industry and thus encouraged competition in the businesses that will result in productivity the haulage industry sector. The present supply of prime movers was more than the demand which caused further sluggishness for the haulage companies (Chan & Zhang, 2011). Besides that, majority of haulage operators were experiencing losses and difficulties in the maintenance due to the huge capital investment. Previous studies have

revealed that there were numerous complaints from customers who expressed their dissatisfaction with the state of the haulage industry. Also, there was less growth in haulage markets, while cost of fuel, vehicle parts and operational costs are on the high, and further affect the growth of the industry.

According the advocacy launched by the government through the local media, the haulage industry presently is set for perfect competitive markets or liberalization. In such competitive market, no buyer or seller will have market power (Anderton, 2004). In terms of market liberalization, the effort of two or more parties acting independently to secure the business of a third party is offered by the most favorable terms (Yu, 2011). Though, it is the common belief that government has less control towards haulage industry and is dependent of the players competing in the market. There is a need for the government to focus more on the impacts of liberalization on the haulage operators. This requires appropriate planning before the implementation, specifically on the government preparation and the present situation of haulage industry (Perpina et al., 2009).

In addition, issuing operation permits to new companies has allowed competition and provided benefits of lower prices to customers. It has also helped in allowing competitors to do more businesses maturely (Wu & Shangguan, 2012). However, it later showed that encouraging competing activities in the oversupply of prime movers, trailers, container yards, warehouse by many players could be challenging. This is traced to inadequate attention to the determining factors of open market, especially as it affects the haulage industry. One of the impending problems in the industry is the oversupply of machineries, and the attendant difficulties for haulage operators (Perpina et al., 2009). Moreover, opening new markets, especially the open concept of the haulage, requires additional regulation to ensure that the services will be continuous and consumer will not be adversely affected (Perpina et al., 2009). It is on this note that researchers posited that the exact determinants of open market concept such as business strategy, administrative activity and operation activity should be studied. Hence, this research intends to identify the factors that determine the open market concept in haulage industry through modeling of its antecedents.

## **LITERATURE REVIEW**

The haulage business is practically difficult for new entrants because of the high cost involved. For instance, a new good brand prime mover costs about RM 300, 000 each (Yu, 2011), and a company needs more than 10 trucks for sustainable profit making. Yu (2011) further stated that a company of a large fleet with a good management system has the opportunity of making a 5% to 10% margin. Notably, the global economic crisis in 2008 has been responsible for the reduction in the number of new players in the industry. The strategy used in different transportation company makes the activities to be easier and cheaper if all containers go back to the port and not productive to have container like 10km away from the port (Wu & Shangguan, 2012). Although some of the ports in Malaysia have on-dock-depot at the port, it was still not efficient as there was only one gate for the trucks to collect and send the containers (Yu, 2011).

Besides the location, some container depot operators should improve on their efficiency (Yan & Qui, 2011). It costs higher while taking half a day to collect a container, and this has been reported to relevant authority, though with no response. Open market is now planning to help its members in inspiring business change. Due to the increased of costs planning to have a central purchasing centre where we can team up to buy spare parts such as tyres and lubricants at competitive prices. AMH has also implemented a consolidated Puspakom and located it at Konsortium Logistik Bhd. These will save smaller players time and cost for their vehicle inspection as opposed to queuing at centralized Puspakom centres. This also can mitigate the queuing time as experienced by the haulage operators and this is able to reduce the costs of queuing.

The freight forwarding is also related to haulage industry in Malaysia as reported by the Malaysian logistics industry. The industry is said to have grown to 9.5% at the total of RM139.74bil by value this year compared with RM127.66bil in 2012. According to a business consulting firm, Frost & Sullivan, this is said to be due to strong sustainable economic growth in the country and strong intra-Asian trade. Nevertheless, the growth is less than overall capacity of haulage fleets. The overall was less than 70% as targeted by the haulage company. With this result, the overall performance of the haulage is still lower than the expected.

The term open market is generally refers to free trade and usually in such area of businesses and economic. It also subjects to a reduction of government restriction or less participation from regulatory bodies in implementing the line of businesses, policy and regulation in economy exchange for greater participation of private entities (Yan & Qui, 2011). In a broad term is the removal or reduction of restrictions or barriers on the free exchange of goods between nations (Taylor, 2000). Perego, Perotti and Mangiaracina (2011) stresses further that, in principle, an open market is a completely free market in which all economic actors can trade without any external constraint. Some other contexts the open market is referred to as deregulation will lead to a raised level of competitiveness, therefore higher productivity, more efficiency and lower prices in overall (Ahluwalia & Nema, 2006).

On the other hand, the open market is referred to as demand for an item (such as goods or services) as a result of the market pressure from stakeholders (Boto-Giralda et al., 2012). According to De Rosa et al. (2013), an open market refers to a market which is accessible to all economic actors and a space or place where anyone wishing to trade physical goods may do so free of selling charges and taxes. An open market defined all economic actors to be of equal opportunities in the process of entering the market (Huang, 2009). It considers an ongoing program to review regulations with a view to minimizing, simplifying, and making them more cost effective (Chan & Zhang, 2011). Griffis et al. (2012) stressed that a free market is a market economy in which the forces of supply and demand are free of intervention by a government and price-setting monopolies.

Furthermore, an open market is characterized by the absence of tariffs, taxes, licensing requirements, subsidies, unionization and any other regulations or practices that interfere with the natural functioning of the free market (Bowersox et al., 2002). This shows that

anyone can participate in an open market (Yu, 2011). Thus, there may be competitive barriers to entry, but there are no regulatory barriers to entry (Bowersox et al., 2002). In the haulage contexts open market means there was no restriction for the haulage operators in getting up their business and compete with each other.

Previous studies have shown that government had further liberalized the services sector to attract more foreign investments and bring more professionals and technology, and also to strengthen competitiveness in the sector (Zak et al., 2013). Recognizing the growth potential in the services sector, the Government has decided to immediately liberalize the 27 services subsectors in adequate with no equity condition imposed (Yu, 2011). These sub-sectors are in the areas of health and social services, tourism, transport, business services and computer and related services (Taylor, 2000).

Complementing the growth and development in the manufacturing sector, the Government is intensifying its efforts to promote and develop the services sector (Perpina et al., 2009). Stressing further, the Government will progressively undertake liberalization of the other services sub-sector on a specified periodic basis, while the open market haulage concept is said to be the first to be established among the stakeholders. The growth in haulage market is needed yearly and its significant expansion in trade is noted. The record of a certain three months in 2012 with ASEAN showed an increase of 8.6% or RM6.89 billion. The People Republic of China's market increases by 10.9% which has a value of RM4.05 billion; Japan increases by 8% of a value of RM2.78 billion; and Australia, increased by 27.9% at a value of RM2.29 billion (Perpina et al., 2009). Intra-regional trade has continued to support strong growth with ASEAN, which expanded to RM87.09 billion or 27.4% of Malaysia's total trade. Exports have increased by 9.1% to RM45.36 billion and imports grew by 8.1% to RM41.73 billion. Higher exports of refined petroleum products, electrical and electronic (E & E) products, crude petroleum, petroleum products as well as chemicals and chemical products contributed to the increase. Singapore was the largest export destination for this quarter. On the other hand the growths on the haulage market have small package as compared to the increase on the haulage fleets (Zak et al., 2013).

Besides the increase in liquefied natural gas (LNG), increases were recorded in exports of plywood by RM166 million. The increase in the telephone for cellular network was about RM209 million; microprocessor of hybrid integrated circuits attracted RM175 million; and computer storage units is of RM73 million. Due to the weak economic development in the Euro zone where several Euro zone countries are now technically in recession, trade with the EU increased by 0.7% which is RM30.78 billion. On the other hand, the exports to the EU reduced by 10.4% to RM15.89 billion while imports expanded by 16.2% to RM14.9 billion. Lower exports was seen for E&E products which decreased by 11.5% or RM929.9 million, crude rubber (decreased 29% or RM308.5 million), refined petroleum products (decreased 78.1% or RM251.9 million) and manufactures of metal (decreased 40.2% or RM206.1 million) (Perpina, 2009).

The increase in exports in the first quarter 2012 was largely contributed by higher exports of LNG, refined petroleum products and crude petroleum brought about the higher prices

of these products (Wu & Shangguan, 2012). In addition, there were higher exports of machinery, appliances, parts, rubber products, optical and scientific equipment, iron and steel products as well as chemicals and chemical products. Significant increases in exports were recorded for microprocessor of the hybrid integrated circuits by RM2.1 billion, and computer storage unit increases by RM1.98 billion. The telephone for cellular network increases by RM745.5 million and parts and accessories for oscilloscope, spectrum analyser and other measuring instruments and apparatus, increases RM317.8 million (Perego et al., 2011). However, little has been done as regards the improvement in the demand in haulage industry in view of mitigating losses in the operational activities.

## **METHODOLOGY**

The geographical locations covered by this study are Pinang, Port Klang/ Kuala Lumpur, and Johor Bahru. The respondents were drawn from the Association of Malaysian Haulage (AMH) and Association of Logistics Operators in Malaysia. This research employs the quantitative research approach which involves descriptive analysis of the demographic data and multivariate analysis of the responses which reveal the perception of the respondents. This suggests the fitness of the research model.

### **Measurement**

The demographic data deals with the details of the respondents, and were taken into account in modeling the key antecedents (factors) of open market concept in haulage industry. The business strategy, administrative strategy, operation activity and financial activity as shown in Figure 1 below are the main factors modelled for the actualization of open market concept in the haulage industry. The items in the construct were measured by using 5 point likert scale ranked from strongly disagree (1) to strongly agree (5), using survey questionnaire. The modeled constructs were to measure the perception of the individual stakeholders who are haulage operators, customers, government and regulatory body, general public and researchers.

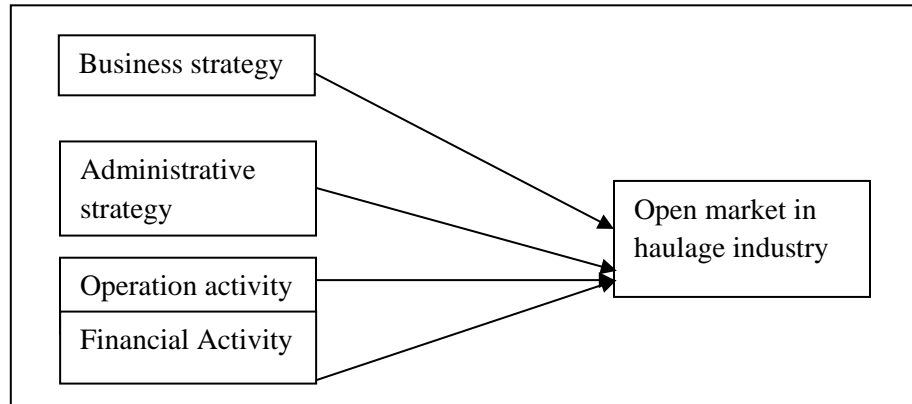
Based on the highlighted propositions form the literature reviewed, the following hypotheses were drawn for further analysis in this research:

H<sub>1</sub>: There is significant relationship between business strategy and open market concept in haulage industry.

H<sub>2</sub>: There is significant relationship between administrative activity and open market concept in haulage industry.

H<sub>3</sub>: There is significant relationship between operation activity and open market concept in haulage industry.

H<sub>4</sub>: There is significant relationship between financial activity and open market concept in haulage industry.



**Figure 1**  
Research Model

### Location, Respondents and Data Collection Technique

This research was conducted at Pulau Pinang, Port Klang, Johor Baru and some other public places, shown in Table 1.

**Table 1**  
Statistics of the Sampled Locations

<b>Location</b>	<b>Samples</b>	<b>Respondents</b>	<b>%</b>
Penang	Haulage industry	50	27.93
Port Klang /Kuala Lumpur	Customers	50	27.93
Johor Bahru	Government and regulatory	50	27.93
Others	Public and researchers	20	11.76
<b>Total</b>	<b>4 groups</b>	<b>170</b>	<b>170</b>

For the data collection process, the survey questionnaires were administered to 170 respondents. Table 2 shows the descriptive distribution of the respondents.

**Table 2**  
Descriptive Distribution of the Respondents

	<b>Characteristics</b>	<b>Number</b>	<b>Relative frequency (%)</b>
a.	Haulage Operators	15	8.82
	Shareholders/owners	20	11.76
	Professional staff	15	8.82
b.	Customers		
	Experience in haulage industry 5 -10 years	15	8.82
	Experience with transport industry 10 -15 years	20	11.76
	Frequency using haulage services 15 -20 years	15	8.82
c.	Government and regulatory bodies	15	8.82
	1. Direct haulage agencies.	5	2.94
d.	General		
	1. Civilian, Teachers and Student.	15	8.82
	2. Engineers, mechanics and drivers.	20	11.76
	3. Safety and health workers.	15	8.82
	<b>Total</b>	<b>170</b>	<b>100</b>

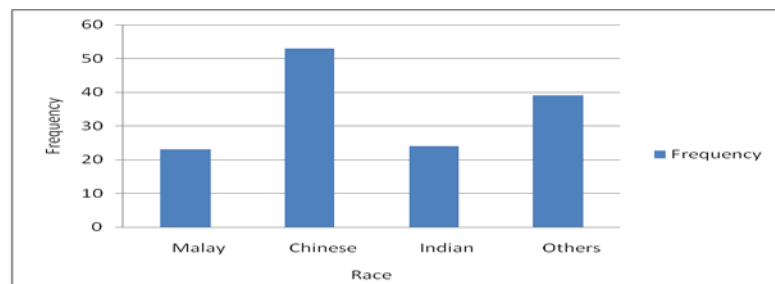
The selection of the sample size for the data collection was based on random probability sampling approach. Although, over 200 stakeholders that have adequate knowledge in haulage industry were invited for the data collection process, only 170 were selected through simple random sampling and were finally administered the questionnaires. The collected data from the respondents is adequate for the purpose of achieving the set objectives of this research because the respondents represent the valid unit of analysis within the haulage industry.

## DATA ANALYSIS AND RESULTS

The data analysis commences with the treatment of missing data as one of the data preparation and cleaning. The result shows that there was no missing data while coding the dataset into the IBM SPSS version 20. The screening of dataset showed 31 cases out of 170 questionnaires are outliers, and they are subsequently deleted. This is to ensure the model fitness during the analysis stages.

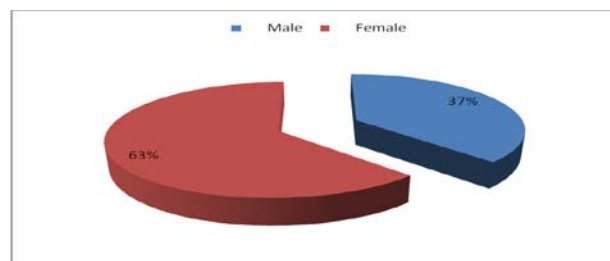
### Background of the Respondents

The frequency distribution of respondents that were administered the questionnaires is shown in Figures 2 to 6. This reports the remaining 139 cases after the cleaning and preparation of data that were used to test the fitness of the open market haulage concept. This descriptive analysis shows the distribution based on race, gender, age, educational background and their professional status in haulage industry.



**Figure 2**  
Population Distribution

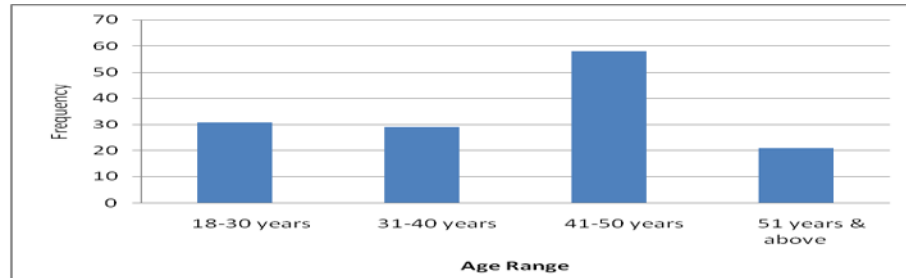
The result in figure 2 reveals that the Chinese are the majority and the Malay are the least. As shown in Figure 3, considering the gender distribution, 63% are female while 37% are male. The respondents of age range 18-30 years were 31 (22.3%), 31-40 years were 29 (20.9%), while 58 (41.7%) of the respondents are between 41-50 years, and 21 (15.1%) were in the range of 51 years and above.



**Figure 3**  
Gender Distribution

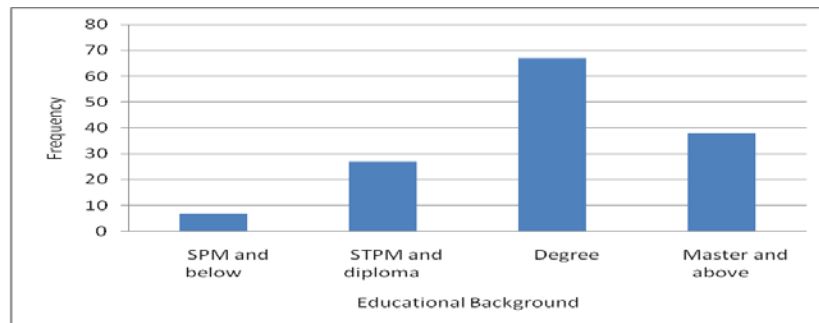


The age distribution shows that the elderly people who are within the age range of 41-50 years are the major players in the haulage business. This is further shown in Figure 4.



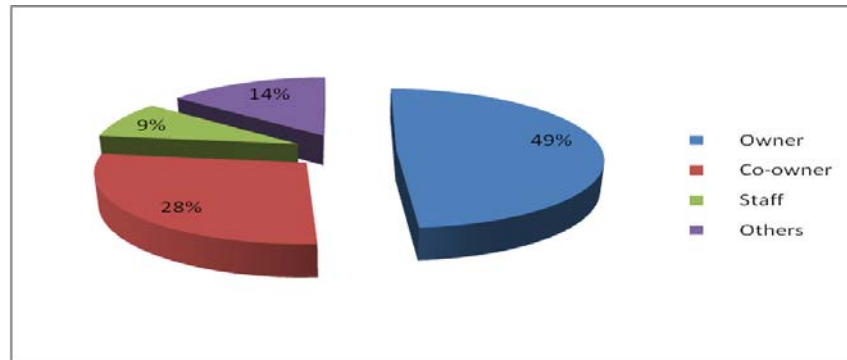
**Figure 4**  
Age Range

Figure 5 shows the educational status distribution of the respondents. Respondents that has SPM and below as educational certificate are 7 which makes 5%, 27 which is 19.4% possess STPM and diploma certificate, 67 (48.2%) of the respondents have degree certificates and 38 (27.3%) possess master degree and above.



**Figure 5**  
Education Background

This reveals that majority of the operators in the haulage industry in Malaysia are degree holders. Also, the findings shown in Figure 6 is that 68 (48.9%) of the respondents are owner of their haulage industry, 39 (28.1%) are co-owners, 12 (8.6%) are staffs in the haulage industry and 20 (14.4%) of the respondents belong to the other members of the haulage industry.



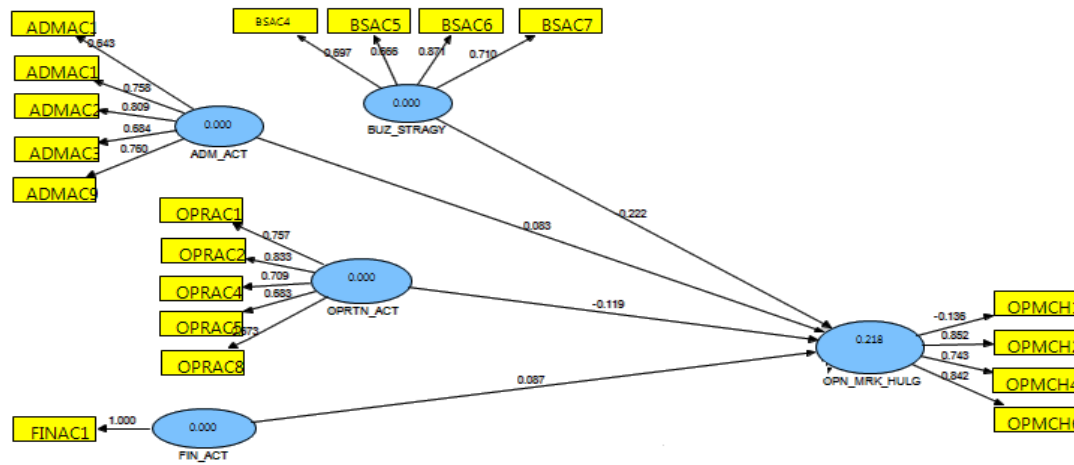
**Figure 6**  
Ownership Distribution

Average Variance Extracted (AVE), Fitness of the model ( $R^2$ ) and Composite Reliability (C.R) were analyzed to test the reliability of the collected data and strength of the model used in modeling the key antecedents of open market concept in haulage industry. The results show that that all the constructs to model the open market concept in haulage industry have their C.R greater than 0.7. Besides, the AVEs of the construct satisfy the benchmark values of 0.5. This is shown in table 3.

**Table 3**  
Descriptive Distribution of the Respondents

Constructs	AVE	$R^2$	C.R
Business Strategy	0.548	-	0.827
Administration activity	0.5374	-	0.852
Operational Activity	0.538	-	0.853
Financial Activity	0.5016	0.218	0.727

Therefore, the fitness of model is acceptable with the variance explanation of 0.218 which is common in transportation research. This is shown in Figure 7.



**Figure 7**  
Construct and Loading Items

### Evaluation of the proposed Hypotheses

After examining the appropriateness of the measurement of the model, the hypotheses were tested and their results are shown in Table 4. All the hypotheses were supported by the result of the analysis which was done through the bootstrapping technique in the PLS-SEM. Table 4 shows the results of the hypotheses, illustrating the hypotheses' support as shown from the findings. It implies that achieving open market concept in haulage industry must be preceded by business strategy, administrative activities, operation activities and financial activity of the haulage industry. The key four antecedents must be taken into consideration.

### DISCUSSION

The obtained results from the reliability and validity of the research model revealed that AVE for the both endogenous and exogenous variables are above 0.5 which is an indication of strength of the endogenous variables to be accepted as antecedent for modeling open market concept in haulage industry. The power of variance explanation  $R^2$  of the model is also accepted as the basis for modeling the antecedents of open concept in haulage industry. This implies that privatization or commercialization of haulage industry could be achieved through the business strategy adopted by individual companies in haulage market, their administrative activities, operation activities and the financial activity. As shown in Table 4, the hypothesis  $H_1$  is supported which is the relationship between business strategy and open market concept in haulage industry. This implies that whichever the strategy to be adopted or adapted in haulage industry has to be flexible in

order to accommodate the commercialization act. In commercialization or privatization of company, previous studies have shown that strategy of company matters most in welcoming people's ideas. Moreover, the administrative activity,  $H_2$  of the haulage industry is suggested to be considered as important in order to achieve open market concept. This means that the policy makers in the transportation and logistics industries have vital roles to play in the process of commercialization of their companies. Ultimately, the type of operation that individual haulage industry performs should be put into consideration so as to achieve open market, thus, leads to the support of hypothesis  $H_3$ . The operation they perform in haulage industry should be the type that will allow people to exercise their rights in performing their logistics business. The financial activity, as supported by  $H_4$  implies that the operators' financial strength and actions influence the haulage open market concept.

### CONCLUSION

One of the major issues in the open market in haulage and transportation industries is the antecedents' factors which this study investigated. These are the factors that determine the open concept issue in the industry. As shown from this study, these factors are business strategy, administrative activities, operation activities and financial activities of the haulage industries. Hence, this research has established the key antecedents for modeling the open market concept in haulage industry, and its empirical findings validate its propositions. The future research would take longitudinal approach in view of investigating the antecedents, and possibly extended with addition of other factors as the literature suggests.

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